

FRYER

DESCRIPTION

The present invention refers to a fryer of the type comprising an outer casing in which a container for the oil is inserted that in turn houses a rotatable basket.

Known fryers suffer from various drawbacks including, above all, the fact that they require high oil consumption for cooking.

The organoleptic and nutritional properties of a food product cooked in excess oil can deteriorate and eating extremely fatty foods can, in the long term, be harmful to one's health.

Moreover, oil has a non-negligible cost and can cause disposal problems and, especially when it is hot, needs to be treated with extreme caution.

For this reason whoever operates a fryer with large amounts of oil is often tempted not to get rid of the oil leaving it in the fryer to use it many times over thereafter, once again to the detriment of the wholesomeness of the food product thus prepared.

The technical task proposed of the present invention is, therefore, that of making a fryer that allows the aforementioned technical drawbacks of the prior art to be eliminated.

In this technical task a purpose of the invention is that of making a fryer that does not require high oil consumption for

cooking and that does not cause excessive oil absorption in the food product so as to enhance its organoleptic and nutritional properties and to maintain its wholesomeness.

Another purpose of the invention is that of making an extremely versatile fryer that is able to carry out different types of cooking for the same food product.

The last but not least purpose of the invention is that of making a fryer that is cost-effective and able to work with limited energy consumption.

The technical task, as well as these and other purposes, according to the present invention, are accomplished by making a fryer comprising a rotatable cooking basket and an oil container, characterised in that it has air heating means and forced circulation means of said heated air through said basket for at least partially cooking the food product contained in said basket through said heated air.

The present invention also discloses a method for cooking a food product with a fryer equipped with an oil container with a rotatable cooking basket, characterised in that a forced circulation of hot air through said basket is generated with heating means, and in that the basket is positioned with respect to the container so as to keep the food product at least partially exposed to the heated air for at least a period of the cooking cycle to carry out at least partial cooking through said heated air. Other characteristics of the present invention are defined, moreover, in the following claims..

Further characteristics and advantages of the invention shall become clearer from the description of a preferred but not exclusive embodiment of the fryer according to the finding, illustrated for indicating and not limiting purposes in the attached drawings, in which:

- figure 1 schematically shows a top side partial section view of a fryer according to the present finding; and
- figure 2 shows a view of the fryer of figure 1 sectioned along line 2-2.

With reference to the quoted figures, a fryer is shown, wholly indicated with reference numeral 1.

The fryer 1 comprises an outer casing 2 that houses a container 3 for oil equipped with a cover 5, and a rotatable basket 4 suitable for containing the food product to be cooked.

The basket 4 can be of the net type, as illustrated, or even of the perforated type.

The basket 4 is a cylinder having a horizontal axis placed in rotation by suitable motorised means, for example an electric motor 7 housed in a seat formed in the outer casing 2.

The fryer 1 has first positioning means of the basket 4 with respect to the container 3 (not illustrated), for example mutual interference members between the handle 6 of the basket 4 and the container 3 or the outer casing 2 suitable for locking the basket 4 at various heights with respect to the container 3, between a lower position of the basket 4 in which the food product must be able to be at least partially

immersed in the oil present in the container 3, and an upper position of the basket 4 in which the food product must be able to be completely extracted from the oil present in the container 3.

The container 3 can have a configuration and arrangement such as to entirely house the basket 4 inside it, but it is also conceivable for the container 3 to be suitable for containing just a portion of the basket 4 or even for the basket 4 to be completely outside the container 3 and to be able to be introduced into the container 3 only upon request by actuating the first positioning means.

The fryer 1 is also provided with second positioning means of the container 3 with respect to the casing 2 (not illustrated), for example mutual interference members between the container 3 and the outer casing 2 suitable for locking the container 3 at various heights with respect to the bottom of the casing 2, between a lower position of the container 3 of minimum vicinity to the bottom of the casing 2, and an upper position of the container 3 of maximum distance from the bottom of the casing 2.

The fryer 1 is equipped with forced circulation means of heated air through the basket 4 to carry out the cooking of the food product precisely through said heated air.

A forced circulation duct 8 of the heated air is formed between the outer surface of the container 3 and the inner side of the outer casing 2.

The circulation duct 8 has at least one initial portion 10

that extends parallel to the side surface of the container 3, an intermediate portion 11 that extends below the bottom of the container 3 and an end portion 12 that extends parallel to the side surface of the container 3 from the opposite side to the initial portion 10 with respect to the container 3.

The forced circulation means of the heated air are preferably in the form of at least one fan 13 actuated by an electric motor 20.

The fan 13 is positioned in the first portion 10 of the duct 8 and, in particular, is arranged with its rotation axis horizontal.

The initial portion 10 of the duct 8 has a fresh air inlet 14 formed through the outer casing 2, whereas the end portion 12 of the duct 8 has a heated air outlet 15 arranged at a greater height than the fresh air inlet 14.

The container 3 has at least one opening 16 facing the heated air outlet 15 suitable for allowing the passage of heated air through the basket 4.

A discharge passageway 17 of the heated air that has crossed the basket 4 is also formed through the cover 6 of the fryer 1.

Preferably, an air filter 18 is applied to the discharge passageway 17.

The fryer 1 is also equipped with said air heating means, in particular in the form of at least one first electrical resistance 19.

The first electrical resistance 19 is positioned in the

intermediate portion 11 of the duct 8, below the bottom of the container 3.

The air heating means can also foresee a second electrical resistance (not illustrated) positioned in the duct 8 in front of the fan 13.

A third electrical resistance (not illustrated) can also possibly be foreseen suitable for directly heating the oil and positioned inside the container 3.

In a possible variant the fryer, especially in industrial applications, can have recirculation means of the oil in the container 3, in particular in the form of a pump, and it can also foresee a filter for the oil in the recirculation circuit.

The method for cooking a food product with the fryer 1 is, of course, based upon the fact that a forced circulation of hot air through the basket 4 is generated with heating means, and that the basket 4 is positioned with respect to the container 3 so as to keep the food product at least partially exposed to the heated air for at least a period of the cooking cycle to carry out at least partial cooking through the heated air. Advantageously, the same food product can be subjected to different types of cooking.

By adjusting the position of the basket 4 before and/or during cooking, indeed, the food product can be subjected to cooking steps in air and/or in oil, and the sequence and duration of each cooking step can be set as required.

For example, to cook potatoes it is advantageous to establish

a first cooking step in heated air and a finishing step in oil to turn them golden.

It is also possible to keep the food product partially immersed in the oil for the whole cooking cycle, combining the effect of simultaneous cooking in oil and in heated air.

Alternatively, it is possible to cook the food product firstly in oil and then finish cooking in heated air.

At the user's discretion, it is also possible to fill the container 3 with oil and position the basket 4 in the container 3 so as to carry out conventional cooking with the food product completely immersed in the boiling oil.

The fryer 1 also offers the possibility of controlling the heating effect on the oil carried out by the air heating means. To do this, one intervenes on the second positioning means of the container 3 with respect to the casing 2 to adjust the distance between the container 3 and the resistance 19, so that by moving the container 3 away from the casing 2 the heating effect of the resistance 19 on the oil decreases and, vice-versa, by moving the container 3 towards the casing 2 the heating effect of the resistance 19 on the oil increases.

According to the type of cooking the power delivered by the heating means of the air and the oil can also be adjusted.

The first, second and third electrical resistance, indeed, can be activated selectively or simultaneously with or without relation with the position taken up by the basket 4.

Thus, the three resistances can be activated simultaneously

or selectively when the basket 4 is in raised and/or lowered position.

The fryer thus conceived can undergo numerous modifications and variants, all of which are covered by the inventive concept; moreover, all of the details can be replaced with technically equivalent elements.

For example, the structure of the basket can foresee suitable means for holding the food to be cooked inside it suitable for preventing the food from suffering damage during the rotation of the basket.

For fragile or delicate products, such as croquettes or other, which could break during the rotation of the basket, it is possible, for example, to foresee a plurality of supports consisting of a horizontal plate suspended in a balanced manner and free to rotate about a relative rotation pin so as to conserve the horizontal position during the rotation of the basket through the effect of its own weight.

Such holding means can also come in the form of gripping elements suitable for holding the food to be cooked integrally with the basket during the rotation of the latter.

In practice, the materials used, as well as the sizes, can be whatever according to the requirements and the state of the art.